SOME PROBLEMS IN ADAPTATIONS FOR THE BLIND

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The previous speakers this afternoon (evening) have done an excellent job in describing the types and varieties of services for the blind available in this country. These combined programs of services constitute a total of which we as a nation and particularly you as members of the American Association of Workers for the Blind justly can be proud. However, I do not believe we feel that progress has ceased. We will continue to invent new techniques and devices for the education and rehabilitation of the visually handicapped and to adapt present techniques and devices for their use.

My purpose today is to discuss several types of problems we encounter in these efforts. These will not exhaust the list of such problems but will serve as illustrations of a family of difficulties we encounter. However, before getting specific, it might be useful from a logical standpoint to make explicit two implications of our being here today.

The first implication is, of course, that blind persons, given the opportunity, can functionally organize their environments in such a way as to enable them to become emotionally adjusted, self-supporting members of our major social groups. The second implication is that it is necessary for them to employ, in whole or in part, techniques or devices different from those regularly utilized by most of society to achieve these same ends. I think many of the problems we encounter in adapting things for the blind are direct consequences of emotional preoccupation

with the first implication with resulting lack of awareness of the practical and empirical consequences of the second. Evidence for this exists in the vast number of articles published in the literature which present superficial, hopeful and repetitive accounts of solutions to the numerous problems inherent in the education and rehabilitation of the blind. I would like to consider three examples which I feel are symptomatic of this situation: (a) overemphasis on visual models of perception, (b) failure to follow new concepts through to the point of description and empirical validation of their details, and (c) promiscuous use of instruments for psychological measurement.

Not too many years ago, our concepts of the perceptual process were pretty mechanistic. Patterns of stimuli impinging upon organism were believed to result in identical perceptual processes with variability in behavior being relegated to the response realm only. This mechanistic view has been replaced by the view that, based on his own experience, each individual develops models and strategies for dealing with the environment which are constantly monitored during life. Early sensory deprivation can prevent the formation of adequate models and strategies and later sensory deprivation can interfer with monitoring process whereby one corrects and improves upon previous defined models and strategies. In the case of the young blind child, substitution of visual models or strategies for those that would normally be developed based upon his own capacities can only result in impeded learning and inadequate capacity to deal with his environment.

Let's look at some possible problems of this type that may exist in the field of education. One of the fundamental communicatibns devices in our society is the printed word. Learning to read is process highly emphasized in our educational systems. In order for a young child to be able to learn to read, he must first have a basic vocabulary with its accompanying set of concepts. In the case of the blind child this means that he has learned to associate auditory symbols with

things he has touched, smelled, tasted, or heard. Initially, learning to read involves symbol substitution in that written symbols are substituted for auditory symbols and in their turn come to stand for the actual experiences of the child. If in the beginning of the learning process, we include written symbols which stand for experiences that the child lacks we may confuse the whole process. I believe this may be a problem when we directly translate into Braille a primer written for sighted children using visual models of perception.

Let's pursue the matter of reading further. I have already mentioned its importance as a communication device in our society. Reading serves us as a main vehicle for education. One of its efficiencies is derived from the high rate at which information is communicated through this medium. Sighted high school seniors read at a rate of about 250 words per minute. Some adult sighted readers have attained rates of 1200 wpm. These rates of communication are far superior to auditory rates since people speak at an average of about 150 wpm. In the case of the Braille reader this advantage is lost. Adult Braille readers average about 90 wpm with children reading necessarily slower. For this group auditory communication is much faster. Therefore, in emphasizing the perceptual model of reading as a better educational vehicle, we may actually be retarding the process.

We all realize that progress has its origin primarily in the world of ideas. Certainly in our work this world is abundantly populated. Diverse ideas in wide variety exist for the solution of almost every problem that confronts us. But progress is not automatic upon the birth of an idea. Empirical definition and evaluation of details must occur before we know whether we have progressed along the path or digressed from the path to our goal. I believe a major problem in progress for our field is that we fail to systematically evaluate our ideas in detail. The result is that the worth of many developments exists only in opinion, not in fact.

During recent years interest in mobility training has greatly increased. Many ideas have been presented as to what cues the blind can most effectively utilize in order to move safely through the physical environment. While many have had the idea that auditory cues play a significant role in mobility, it is only within the last two decades that this concept has been placed within the realm of fact. Until very recently no attempts have been made to investigate the dynamics of this particular facet of behavior.

Many studies have been made and are being made of the types and degrees of behaviors that are within the potential of the arm and hand of the sighted. We have, however, through use of the cane, extended the radius of sensitivity of the arm and hand of the blind by a good many inches without making, as far as I know, a single effort to systematically study the types of discriminations which are made possible. We have ideas of what other things constitute cues in mobility but no studies have been made of their relative effectiveness or interrelations. Progress in mobility can only be limited until these things are known.

Our ability to judge our progress in any field as well as to estimate present status depends on being able to make reliable and valid measurements. Since education and rehabilitation primarily concern the modification of behavior, one of the most available media for this purpose are psychological and educational tests. In our country these instruments exist in great profusion and very widely in purpose and quality for achieving that purpose. Workers in our field have rightly developed a high interest in these devices as means of determining present status or predicting future status. However, in many cases use has been made of tests without due regard being given to the limitations and technical characteristics of such instruments.

This has been particularly true when tests have been adapted to determine the present status of attributes of blind individuals or groups. I have described tests as measuring instruments. We like to feel that in spite of their limita-

tions they do allow us to rank or categorize individuals or determine the degree to which a person possesses a certain attribute. However, the "inch marks" on the test "yardstick" are almost always relative. We establish these inch marks by determining how well a representative group of people answer the test items. The results of this process we call test norms. Test norms enable us to make statements like, "John's performance on the test was about average for children in his grade," or, "Helen's score on the test was very low. Ninety percent of children her age do better than she." This of course is from where the expression, "John is normal for his age," comes. We mean John can answer correctly as many test items as the average or near average child his age. This then is the way many of our tests work.

What happens, however, if I change some of the test items because they are unsuitable for the person I am testing? What happens if I use some rule of thumb to change the time for the test? What happens if I change the way in which the test was originally administered? The effect can be illustrated through this analogy. Suppose I want the front of my house lot measured. Being intellectually rather than physically inclined I delegate this task to my seven year old son, Jeffrey. After observing his attempts to use the yardstick I have handed him, I realize that this device is too long for him to handle conveniently so I must adapt it. This is no great task for I can simply cut a piece off the end and sort of squeeze the marks together so there will still be 36. Jeffrey happily manipulates this new convenient length along the front of the lot and comes back and reports that there are 150. Do I know any more than I did? In shortening the stick, I have taken it out of the frame of reference which makes it useful. I am unable to evaluate the meaning of the number reported. This is the predicament we often get ourselves into with careless use of tests. There are methods whereby we can eliminate or dimish these effects if we take the trouble and time

to understand their possible occurrence and to learn and utilize the means of avoiding them.

I do not want you to infer from what has preceded that I think we should cease having ideas, making inventions, or adapting devices or techniques. This would mean an end of progress. I do wish to emphasize my belief that without objective and empirical evaluation with its accompanying elimination of the unsuitable, much of our apparent progress is illusionary. Today, in our general society, in our businesses, universities, and other institutions exist the skills to make such evaluations. Aggressive and continuous effort should be made to include such skills among those represented within the American Association of Workers for the Blind.